Evaluating implementation of Chicago’s city ordinance restricting sales of flavored tobacco products near schools

Sandy Slater, PhD, MS
Dianne C. Barker, MHS
Anita Bontu, MPH
Frank Chaloupka, PhD
Funding for this study was provided by grant number 5U01-CA154248 from the National Cancer Institute (NCI), National Institutes of Health to UIC. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NCI.

No industry funding was received

No off-label medication uses are discussed
Background
Flavored Tobacco Use Among Youth

• Almost three-quarters (70.0%) of all current U.S. youth tobacco users attending middle and high school had used at least one flavored cigarette product in the last 30 days:

  • 63.3% used flavored e-cigarette
  • 60.6% used flavored hookah tobacco
  • 63.5% used flavored cigar
  • 58.8% used flavored smokeless tobacco,
  • 53.6% used menthol cigarettes
  • 42.3% used tobacco in pipes.

• This represents 3.26 million youth or 12% of the student population. Among all high school students, 17.9% had currently used at least one flavored product compared to only 5.8% who had only used nonflavored tobacco products.

(2014 NYTS, MMWR / October 2, 2015 / Vol. 64 / No. 38)
The Chicago Flavor Ban

- The City of Chicago passed a policy banning the sale of flavored tobacco products from all retail establishments located within 500 feet of all schools.

The policy includes:

- Menthol Tobacco Products
- All Flavored Tobacco Products (e.g., cigarettes, cigars, cigarillos, vapor products, smokeless products)
- E-cigarettes (a vapor product)
Flavored Tobacco Definition:

"Flavored tobacco product" means any tobacco product that contains a constituent that imparts a characterizing flavor. As used in this definition, the term "characterizing flavor" means a distinguishable taste or aroma, other than the taste or aroma of tobacco, imparted either prior to or during consumption of a tobacco product, including, but not limited to, tastes or aromas of menthol, mint, wintergreen, chocolate, vanilla, honey, cocoa, any candy, any dessert, any alcoholic beverage, any fruit, any herb, and any spice; provided, however, that no tobacco product shall be determined to have a characterizing flavor solely because of the use of additives or flavorings or the provision of ingredient information. A public statement or claim made or disseminated by the manufacturer of a tobacco product, or by any person authorized or permitted by the manufacturer to make or disseminate such statements, that a tobacco product has or produces a characterizing flavor shall establish that the tobacco product is a flavored tobacco product."
Licensed Tobacco Retailers Within 500 Feet of Public and Private Schools by Chicago Ward, 2013

Total Number of Tobacco Retailers Within 500 Feet of a School: 351 of 2986

Prepared by Melissa Buenger
December 5, 2013
Source: City of Chicago Data Portal

tobacconomics
Economic Research Informing Tobacco Control Policy
Conceptual Framework

Figure 1. Conceptual Framework

Policy
Chicago Flavored Tobacco Ban Near-Schools (n=923 stores)

Direct Effect

Neighborhood
- Race, ethnicity, SES
- Retail store proximity to school

Moderating Effect

Tobacco Retail Store Environment
- Presence of unflavored tobacco products
- Unflavored tobacco product placement
- Unflavored tobacco product promotions
- Unflavored tobacco product pricing
Study Aims

Aim 1: Using data collected from retail store observation audits, determine whether product availability, placement, promotion, and price of all tobacco products has been affected by the ban on the sales of flavored tobacco products within 500 feet of schools.

a. Are there differences between licensed tobacco retail outlets affected by the ban located within 500 feet of schools (n=454), licensed tobacco retail outlets located within 501-1000 feet of schools (n=273), and licensed tobacco retail outlets located beyond 1000 feet of schools (n=273)?

b. Do these differences change over time?

Secondary Aim 1a: Determine whether the ban has affected the retail market for tobacco products in general.

a. Has the policy led to store closures or any relocation of affected licensed retail outlets beyond the 500 feet boundary?

b. Has the policy led to any reduction in the number of licenses issued or not renewed?

c. Has there been any voluntary implementation of the flavored tobacco product ban among licensed retail outlets among those located beyond 500 feet of schools?
Study Design Cont’d

✓ We plan to evaluate the impact of the new policy by collecting data on flavored tobacco product availability, placement, promotion and price at different time points:
  • Initial pre-policy implementation (baseline): **April-May; December 2014**
  • Second pre-policy implementation (baseline): **June-August, 2015**
  • Post-implementation: **(May-June, 2016)**
## Tobacco Products

### 18. Cigarettes
- **Sold here?**
  - Yes
  - No → GO TO #19

### 19. Cigarettes/little clancers
- **Sold here?**
  - Yes
  - No → GO TO #20

### 20. E-cigarettes (includes hookah/vape pens), disposable
- **Sold here?**
  - Yes
  - No → GO TO #21

### 21. E-cigarettes (includes hookah/vape pens), refillable
- **Sold here?**
  - Yes
  - No → GO TO #22

### Flavors sold?
- **Unflavored**
  - Yes
  - No → GO TO #16

- **Menthol/Mint/Ice**
  - Yes
  - No → GO TO #16

- **Fruit/Sweet/Candy**
  - Yes
  - No → GO TO #16

- **Alcohol**
  - Yes
  - No → GO TO #16

- **Herb/Spice**
  - Yes
  - No → GO TO #16

- **Other**
  - Yes
  - No → GO TO #16

### Single items sold here?
- **Yes**
  - Yes
  - No → GO TO #16

- **No**
  - Yes
  - No → GO TO #16

### Product within 2 inches of toys, candy, gum, slushy/soda machines, or ice cream?
- **Yes**
  - Yes
  - No → GO TO #16

- **No**
  - Yes
  - No → GO TO #16

### Self-service display?
- **Yes**
  - Yes
  - No → GO TO #16

- **No**
  - Yes
  - No → GO TO #16

### Any price promotions?
- **Yes**
  - Yes
  - No → GO TO #16

- **No**
  - Yes
  - No → GO TO #16

### Cross-product promotion with cigarettes?
- **Yes**
  - Yes
  - No → GO TO #16

- **No**
  - Yes
  - No → GO TO #16

### Exterior

6. Which products are advertised outside the store (on windows/draughts, building, sidewalk, or elsewhere)?
- **Cigarettes**
  - Yes
  - No → GO TO #7

- **Cigarillos/little cigars**
  - Yes
  - No → GO TO #7

- **E-cigarettes (includes hookah/vape pens), disposable**
  - Yes
  - No → GO TO #7

- **E-cigarettes (includes hookah/vape pens), refillable**
  - Yes
  - No → GO TO #7

- **E-juices (liquid nicotine)**
  - Yes
  - No → GO TO #7

- **E-cigars**
  - Yes
  - No → GO TO #7

- **Chew, moist or dry snuff, dip, or snus**
  - Yes
  - No → GO TO #7

---

**Note:**
- "GO TO #" indicates the next question to be asked.
- "Yes" or "No" responses are provided for each category.
<table>
<thead>
<tr>
<th>Flavor Examples</th>
<th>Menthol/ Mint/ Ice</th>
<th>Fruit/ Sweet/ Candy</th>
<th>Alcohol</th>
<th>Herb/ Spice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Frost</td>
<td></td>
<td>Apple (green, wild)</td>
<td>Bourbon</td>
<td>Clove</td>
</tr>
<tr>
<td>Peppermint</td>
<td></td>
<td>Cherry</td>
<td>Cognac</td>
<td>Cinnamon</td>
</tr>
<tr>
<td>Spearmint</td>
<td></td>
<td>Chocolate</td>
<td>Margarita</td>
<td></td>
</tr>
<tr>
<td>Wintergreen</td>
<td></td>
<td>Cream</td>
<td>Peach Schnapps</td>
<td></td>
</tr>
<tr>
<td>Winterchill</td>
<td></td>
<td>Grape (white, red)</td>
<td>Piña Colada</td>
<td></td>
</tr>
<tr>
<td>Mint</td>
<td></td>
<td>Honey</td>
<td>Spiced Rum</td>
<td></td>
</tr>
<tr>
<td>Ice</td>
<td></td>
<td>Java/ Coffee</td>
<td>Whiskey</td>
<td></td>
</tr>
<tr>
<td>Menthol</td>
<td></td>
<td>Peach</td>
<td>Wine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strawberry</td>
<td>Wine Grape</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vanilla</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Espresso</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Almond</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Baseline Results
## Distribution of Final Sample

<table>
<thead>
<tr>
<th>Predominant Racial Group</th>
<th>Distance in feet from school</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;500</td>
<td>501 to 1000</td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>49</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>14.5%</td>
<td>13.8%</td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>32.4%</td>
<td>38.2%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>25.1%</td>
<td>21.9%</td>
</tr>
<tr>
<td>Other/none</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>95</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>28.0%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Total</td>
<td>339</td>
<td>319</td>
</tr>
<tr>
<td></td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Presence of Tobacco Products by Strata

![Bar chart showing the presence of various tobacco products by strata.]

- **Cigarettes**
  - Strata 1: 0%
  - Strata 2: 20%
  - Strata 3: 40%
- **Cigarillos/little Cigars**
  - Strata 1: 20%
  - Strata 2: 60%
  - Strata 3: 80%
- **Disposable E-Cig**
  - Strata 1: 40%
  - Strata 2: 80%
  - Strata 3: 100%
- **Refillable E-Cig**
  - Strata 1: 60%
  - Strata 2: 100%
- **E-Juice**
  - Strata 1: 80%
  - Strata 2: 100%
  - Strata 3: 100%
- **E-Cigars**
  - Strata 1: 10%
  - Strata 2: 40%
  - Strata 3: 60%
- **Smokeless Tobacco**
  - Strata 1: 30%
  - Strata 2: 70%
  - Strata 3: 90%

*Note: The chart indicates the percentage of each tobacco product present in each strata.*
Presence of Flavored Tobacco Products by Strata

- Cigarettes
- Cigarillos/little Cigars
- Disposable E-Cig
- E-Juice
- Smokeless Tobacco

Strata 1
Strata 2
Strata 3

Presence of Flavored Tobacco Products

Strata 1
Strata 2
Strata 3

Cigarettes
Cigarillos/little Cigars
Disposable E-Cig
E-Juice
Smokeless Tobacco

0%
20%
40%
60%
80%
100%
## Most Common Flavors across Tobacco Products

<table>
<thead>
<tr>
<th>Flavor</th>
<th>Cigarillo</th>
<th>Disposable E-Cig</th>
<th>E-Juice</th>
<th>Smokeless Tobacco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menthol</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fruit</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alcohol</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Herb</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Other</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
# Average Flavored Tobacco Product Pricing

<table>
<thead>
<tr>
<th>Product</th>
<th>Strata 1</th>
<th>Strata 2</th>
<th>Strata 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pack <strong>Grape</strong> Swisher Sweets Cigarillo</td>
<td>$1.49</td>
<td>$1.32</td>
<td>$1.47</td>
</tr>
<tr>
<td>2-pack <strong>Silver</strong> White Owl Cigarillo</td>
<td>$1.51</td>
<td>$1.21</td>
<td>$1.44</td>
</tr>
<tr>
<td>Disposable <strong>Magnificent Menthol</strong> Blu E-Cig</td>
<td>$10.31</td>
<td>$9.97</td>
<td>$10.21</td>
</tr>
<tr>
<td>Cheapest Price Single <strong>Flavored</strong> E-Hookah Pen</td>
<td>$9.96</td>
<td>$8.73</td>
<td>$9.03</td>
</tr>
</tbody>
</table>
Future Plans
Next Steps

✓ Analyze second baseline data
✓ Collect post-implementation data: **(May-June, 2016)**

- We will revisit all baseline stores.
  - **355 retailers** located within 500 feet of a school (census of all retailers)
  - **273 retailers** located between 501 and 1000 feet of schools (sample of retailers)
  - **273 retailers** located >1000 feet of schools (sample of retailers)
Sandy Slater, PhD, MS
Associate Professor, Health Policy &
Administration
Research Fellow, Institute for Health Research
and Policy
University of Illinois at Chicago

Contact Information:

Email:
sslater@uic.edu

Twitter:
@sslater